

# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)


REC'D 13 MAY 2004

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| Applicant's or agent's file reference<br>PA135659/PCT   |  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416) |  |
| International application No.<br>PCT/IB 03/02985  | International filing date (day/month/year)<br>28.07.2003 | Priority date (day/month/year)<br>01.08.2002   |  |
| International Patent Classification (IPC) or both national classification and IPC<br>F42D1/045, F42D1/045 |  |  |  |
| Applicant<br>CHEMICAL HOLDINGS INT. LTD et al.  |  |  |  |

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

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| Date of submission of the demand<br><br>27.02.2004  | Date of completion of this report<br><br>10.05.2004                          |
| Name and mailing address of the international preliminary examining authority:<br><br> European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Authorized Officer<br><br>Ziegler, H-J<br><br>Telephone No. +49 89 2399-2894 |



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/IB 03/02985**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-7 as originally filed

**Claims, Numbers**

1-6 as originally filed

**Drawings, Sheets**

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

|                               |             |     |
|-------------------------------|-------------|-----|
| Novelty (N)                   | Yes: Claims | 1-6 |
|                               | No: Claims  |     |
| Inventive step (IS)           | Yes: Claims | 1-6 |
|                               | No: Claims  |     |
| Industrial applicability (IA) | Yes: Claims | 1-6 |
|                               | No: Claims  |     |

**2. Citations and explanations**

**see separate sheet**

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

The document representing the closest prior art for claim 1 is US-A-5375524.

It shows a pyrotechnical firing installation comprising a plurality of detonators, each with an electric cable comprising at least two connection conductors and a surface line to which the cable of each detonator is connected, wherein the surface line is formed by sections.

These sections are formed by distinct and separate cables that are joined together by connectors.

The installation of the present invention differs from this one in that every section is comprising a terminal or end part of the electric cable coming from a detonator and an end connector to electrically connect this terminal to the cable of the next detonator at a point of the latter defining the origin of its terminal part.

This arrangement is not disclosed in the prior art. Hence the subject matter of claim 1 is novel (Art. 33(1) and 33(2) PCT) and inventive Art. 33(3) PCT).

It provides a surface line cable by sliding one detonator terminal onto the detonator cable of another detonator, similar to daisy chaining.

EP-A-0281722 also only discloses a single surface line cable. It is reused and thus not part of the detonator cable. There are junction boxes to plug in the bundled detonator cables.

GB-A-2243500 shows a single cable with attachment spots for detonators.

Claim 2 defines a detonator comprising a terminal, that, when applied in a installation, results in the installation defined in claim 1, and hence is considered to fulfil the requirement of unity of invention according to the PCT.

GB-A-2243500 (3a) shows a detonator comprising an electric cable, the free end of which is provided with a connector, which comprises an a first part solid with the end of the cable and provided laterally with connection pins. None of the known detonators

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would be suitable to build an installation as defined in claim 1.

The characterising features of the detonator according to claim 2 are therefore not disclosed in the prior art. Consequently the subject matter of claim 2 is novel and inventive as well.

Claims 2-6 include further preferred features of the invention, and since they are dependent on claim 2, fulfil the requirements of the PCT as well.

The invention is industrially applicable according to Art. 33(4) PCT.